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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,339	02/18/2004	Roberto R. Panepucci	1153.099US1	9241

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EXAMINER	
STAHL, MICHAEL J	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,339	PANEPUCCI ET AL.	
	Examiner	Art Unit	
	Mike Stahl	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *26 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7-10, 12, 15, and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Tran et al. (US 2005/0018946). The text of the rejection from the Office action mailed November 23, 2005 is repeated below.

Claim 1: Tran discloses an optical sensor comprising: a substrate having an opening; a cantilevered waveguide **400** (generally above body portion **200**) having a first portion supported by the substrate and a second portion suspended over the opening in the substrate; and a receiving structure (generally above body portion **100**) positioned to receive light transmitted from an end of the second portion of the cantilevered waveguide. See figs. 1A-1B.

Claim 2: The receiving structure includes a waveguide (a separated portion of waveguide **400**) having an end facing the light transmitting end of the second portion of the cantilevered waveguide.

Claim 7: The cantilever waveguide includes a selectively receptive substance attached to the second portion of the cantilever waveguide a desired distance from the light transmitting end of the second portion ([0021]-[0025]).

Claim 8: The cantilever waveguide has a resonant frequency of oscillation that changes when something attaches to the selectively receptive substance ([0068], [0069], claim 20).

Claim 9: The selectively receptive substance is bio-receptive ([0070]-[0072], [0077]-[0078], etc.).

Claim 10: The immobilized receptor on one face of the cantilever ([0041]) constitutes a stress layer formed on the cantilevered waveguide.

Claim 12: The sensor includes the elements indicated above, and further includes means for actuating the cantilevered waveguide as described in [0068] and claim 20 of the reference.

Claim 15: The means for actuating increases the sensitivity without significantly decreasing a quality factor.

Claims 27-30: The limitations of these claims are met by the Tran device described above.

Claims 1-4 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Rines (US 4414471). The text of the rejection from the Office action mailed November 23, 2005 is repeated below.

Claim 1: Rines discloses an optical sensor comprising: a substrate **26** having an opening; a cantilevered waveguide **30** having a first portion supported by the substrate and a second portion **34** suspended over the opening in the substrate; and a receiving structure positioned to receive light transmitted from an end of the second portion of the cantilevered waveguide. See fig. 2.

Claim 2: The receiving structure **32** includes a waveguide **32** having an end facing the light transmitting end of the second portion of the cantilevered waveguide.

Claim 3: In an alternate embodiment (fig. 4), the receiving structure includes a reflector **56** facing the light transmitting end of the second portion of the cantilevered waveguide.

Claim 4: The reflector is supported by the substrate and reflects light back into the light transmitting end of the second portion of the cantilevered waveguide.

Claim 30: The process of operating the Rines device meets the limitations of this claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5, 6, 11, 13, 14, and 16-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tran et al. (cited above). Refer to the Office action mailed November 23, 2005 for the full text of the rejection.

Response to Arguments (May 26, 2006 response)

The remarks argue that the waveguide in Tran et al. is supported by a separate cantilever and is not cantilevered by itself. However, attention is drawn to [0021] which indicates that the waveguide may be integral with the cantilever, or [0044] which specifically teaches that the cantilever may be the waveguide itself. Accordingly, the Tran et al. reference is still regarded as anticipating the claims identified in the rejection.

The remarks also argue that the optical fiber in Rines differs from the optical waveguides described in the present application. However, an optical fiber is an optical waveguide nevertheless. Although there may be structural differences between the optical fiber in Rines and the optical waveguide used in the present invention, these differences are not set forth in the claims. Thus the Rines reference is still regarded as anticipating the claims identified in the rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries about this letter should be directed to Mike Stahl at 571-272-2360. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the technical support staff supervisor at 571-272-1626. Official communications which are eligible for submission by facsimile and which pertain to this application may be faxed to 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Stahl MJS
Patent Examiner
Art Unit 2874

August 7, 2006

Rodney Bovernick
Supervisory Patent Examiner
Technology Center 2800